CLAIMS

1.   (withdrawn)   A method of funneling user responses in a voice portal system to determine a desired item or service, the method comprising:

a)   querying a user for an attribute value associated with a first particular attribute of the desired item or service; and

(b)   determining if the attribute value given by the user satisfies an end state, an end state comprising a point at which the item or service is found, wherein if the end state is not satisfied, performing steps (a) and (b) by said voice portal with a further attribute of the item or service sought.

2.   (withdrawn)   The method of claim 1, further comprising a step of assigning a user preference to the attribute value.

3.   (withdrawn)   The method of claim 1, wherein querying a user for an attribute value associated with a first particular attribute of the desired item or service comprises:

        prompting the user to supply an attribute value associated with the first particular attribute;

        establishing an attribute vocabulary set related to the first particular attribute of the desired item or service; and

        identifying the attribute value given by the user by comparing the attribute value with the attribute vocabulary set.

4.   (withdrawn) The method of claim 3, wherein the step of establishing an attribute vocabulary set comprises providing a group of possible verbal responses to a query on the first attribute.

5.   (withdrawn) The method of claim 3, wherein the step of identifying the attribute value given by the user comprises providing fallback queries to query the user further for an attribute value which is in the attribute vocabulary set.

6.   (withdrawn) The method of claim 5, wherein the step of providing fallback queries comprises asking the user for at least one substitute attributes for the particular attribute of a desired item or service.

7.   (withdrawn) The method of claim 3, wherein the step of identifying the attribute comprises setting a preference for the attribute.

8.   (withdrawn) The method of claim 3, wherein the step of identifying the attribute comprises setting a global preference for the attribute, the global preference being applied to attributes in a plurality of domains of interest.

9.   (withdrawn)   A system for funneling voice portal user responses to determine a desired item or service, the system comprising:

a user interface; and

a database coupled to the user interface, the user interface coordinating communications with a user, the database storing information regarding attributes, attribute vocabulary sets, and Internet-based information;

whereby the user interfaces

a)   queries a user for an attribute value associated with a first particular attribute of the desired item or service; and

(b)   determines if the attribute value given by the user satisfies an end state, an end state comprising a point at which the item or service is found, wherein if the end state is not satisfied, performing steps (a) and (b) by said voice portal with a further attribute of the item or service sought.

10.   (withdrawn) The system of claim 9, wherein the user interface assigns a user preference to the attribute value.

11.   (withdrawn) The system of claim 9, wherein the user interface

prompts the user to supply an attribute value associated with the first particular attribute;

establishes an attribute vocabulary set related to the first particular attribute of the desired item or service;

and identifies the attribute value given by the user by comparing the attribute value with the attribute vocabulary set.

12.   (withdrawn) The system of claim 9, wherein the database stores preferences of the user.

13.   (withdrawn) The system of claim 9, further comprising a customer management subsystem configured to store user related information.

14.   (withdrawn) The system of claim 13, wherein the customer management subsystem records user responses to queries from the user interface.

15.   (withdrawn) The system of claim 9, wherein the user interface communicates with a user using voice.

16.   (withdrawn) The system of claim 9, wherein the user interface utilizes a wireless application protocol (WAP) platform.

17.   (withdrawn) A voice portal configured to funnel user responses to determine a desired item or service, the voice portal comprising:

means for performing the step of:

a)   querying a user for an attribute value associated with a first particular attribute of the desired item or service; and means for performing the step of:

(b)   determining if the attribute value given by the user satisfies an end state, an end state comprising a point at which the item or service is found, wherein if the end state is not satisfied, performing steps (a) and (b)

by said voice portal with a new further particular attribute of the item or service sought.

18.   (withdrawn) The voice portal of claim 17, wherein the means for querying a user for an attribute value associated with a first particular attribute of the desired item or service comprises means for:

prompting the user to supply an attribute value associated with the first particular attribute;

establishing an attribute vocabulary set related to a the first particular attribute of a the desired item or service; and

identifying the attribute value given by the user by comparing the attribute value with the attribute vocabulary set.

19.   (withdrawn) The voice portal of claim 17, further comprising means for assigning a user preference to the attribute value.

20.   (withdrawn) The voice portal of claim 17, further comprising means for setting a user preference.

21.   (withdrawn) The voice portal of claim 17, further comprising means for recording user responses.

22.   (withdrawn) The voice portal of claim 17, wherein the means for identifying the attribute value given by the user comprises means for providing fallback queries to ask more questions regarding the attribute.

23.   (withdrawn) A computer program product comprising computer readable program code for identifying user inputs to a voice portal system, the program code in the computer program product comprising:

first computer readable code for performing:

(a) querying a user for an attribute value associated with a first particular attribute of a desired item or service; and

second computer readable code for performing:

(b) determining if the attribute value given by the user satisfies an   end state, an end state comprising a point at which the item or service is   found, wherein if the end state is not satisfied, performing steps (a) and (b)   by said voice portal with a new further particular attribute of the item or   service sought.

24.   (withdrawn) The computer program code of claim 23, further comprising third computer program code for assigning a user preference to the attribute value.

25.   (withdrawn) The computer program code of claim 23, wherein the program code querying a user for an attribute value associated with a first particular attribute of the desired item or service comprises:

third computer program product for establishing a vocabulary set;

fourth computer readable program code for receiving voice input from a user; and

fifth computer readable program code for recognizing the voice input from the user, the recognized voice input being an identified attribute wherein the attribute is identified by comparing the value given by the user with the vocabulary set.

26.   (withdrawn) The computer program code of claim 25, wherein the computer readable program code for establishing a vocabulary set comprises computer readable program code for creating a list of words based on an attribute.

27.   (withdrawn) The computer program code of claim 23, further comprising computer readable program code for defining a user preference based on user responses.

28.   (previously presented) A method of operating an interactive user operated Internet voice portal having established multiple predetermined vertical domains of interest and a hierarchy of attributes within each vertical domain of interest from top to bottom, the method comprising operations of:

responsive to a user placing a telephone call to the voice portal, identifying the user and obtaining user selection of a vertical domain of interest;

performing funneling operations comprising:

(a) building a vocabulary set containing top-level attribute values appropriate to the selected vertical domain of interest;

(b) querying the user to choose a top-level attribute value, applying speech recognition to user responses where recognized answers are limited to contents of the vocabulary set;

(c) until a bottom level attribute value is chosen, repeatedly performing operations comprising: (1) building an updated vocabulary set containing attribute values appropriate to the latest chosen attribute value, and (2) querying the user to choose a next-lower-level attribute value and applying speech recognition to user responses where recognized answers are limited to contents of the updated vocabulary set;

responsive to a bottom level attribute being chosen, conducting an Internet search of HTML non-voice sources for prescribed types of information pertaining to the chosen bottom-level attribute value and, unassisted by voice extensions and enhancements to said HTML, audibly providing resultant information to the user via the telephone call.

29.   (previously presented) The method of claim 28, where:

the funneling operation is performed if the voice portal has not previously stored any attribute value preferences of the user for the selected vertical domain of interest;

the funneling operation is additionally performed if the voice portal has previously stored any attribute value preferences of the user for the selected vertical domain of interest, but the user has opted to override the stored attribute value preferences.

30. (previously presented) The method of claim 28, where:

the funneling operation is only performed if the voice portal has not previously stored any attribute value preferences of the user for the selected vertical domain of interest;

the operations further comprise, if the voice portal has previously stored any attribute value preferences of the user for the selected vertical domain of interest, instead of the funneling operation, performing an operation of conducting an Internet search for prescribed types of information pertaining to the stored attribute value preferences.

31. (withdrawn) A system for funneling voice portal user responses to determine a desired item or service, the system comprising:

a user interface; and

a database coupled to the user interface,

where the user interface is configured to perform operations comprising:

responsive to a user placing a telephone call to the voice portal, identifying the user and obtaining user selection of a vertical domain of interest;

performing funneling operations comprising:

(a) building a vocabulary set containing top-level attribute values appropriate to the selected vertical domain of interest;

(b) querying the user to choose a top-level attribute value, applying speech recognition to user responses where recognized answers are limited to contents of the vocabulary set;

(c) until a bottom level attribute value is chosen, repeatedly performing operations comprising: (1) building an updated vocabulary set containing attribute values appropriate to the latest chosen attribute value, and (2) querying the user to choose a next-lower-level attribute value and applying speech recognition to user responses where recognized answers are limited to contents of the updated vocabulary set;

responsive to a bottom level attribute being chosen, conducting an Internet search for prescribed types of information pertaining to the chosen bottom-level attribute value and audibly providing resultant information to the user via the telephone call.

32.   (withdrawn) At least one signal bearing medium tangibly embodying a program of machine readable instructions executable by a digital data processing machine to perform operations to operate an interactive user operated Internet voice portal having established multiple predetermined vertical domains of interest and a hierarchy of attributes within each vertical domain of interest from top to bottom, the operations comprising:

responsive to a user placing a telephone call to the voice portal, identifying the user and obtaining user selection of a vertical domain of interest;

performing funneling operations comprising:

(a) building a vocabulary set containing top-level attribute values appropriate to the selected vertical domain of interest;

(b) querying the user to choose a top-level attribute value, applying speech recognition to user responses where recognized answers are limited to contents of the vocabulary set;

(c) until a bottom level attribute value is chosen, repeatedly performing operations comprising: (1) building an updated vocabulary set containing attribute values appropriate to the latest chosen attribute value, and (2) querying the user to choose a next-lower-level attribute value and applying speech recognition to user responses where recognized answers are limited to contents of the updated vocabulary set;

responsive to a bottom level attribute being chosen, conducting an Internet search for prescribed types of information pertaining to the chosen bottom-level attribute value and audibly providing resultant information to the user via the telephone call.

33.   (previously presented) A method of operating an interactive user operated Internet voice portal having established multiple predetermined vertical domains of interest and a hierarchy of attributes within each vertical domain of interest from top to bottom, the method comprising operations of:

responsive to a user placing a telephone call to the voice portal, identifying the user and obtaining user selection of a vertical domain of interest;

performing funneling operations comprising:

(a) building a vocabulary set containing top-level attribute values appropriate to the selected vertical domain of interest;

(b) querying the user to choose a top-level attribute value, applying speech recognition to user responses where recognized answers are limited to contents of the vocabulary set;

(c) until a bottom level attribute value is chosen, repeatedly performing operations comprising: (1) building an updated vocabulary set containing attribute values appropriate to the latest chosen attribute value, and (2) querying the user to choose a next-lower-level attribute value and applying speech recognition to user responses where recognized answers are limited to contents of the updated vocabulary set;

responsive to a bottom level attribute being chosen, conducting an Internet search of web pages for prescribed types of information pertaining to the chosen bottom-level attribute value;

applying one or more text patterns to a web page to identify said information and extract it;

applying a plurality of rules to said information to construct grammatical sentences from said information; and

rendering said grammatical sentences into spoken words and communicating said spoken words to the user via the telephone call.

34.   (previously presented) The method of claim 33, where:

the funneling operation is performed if the voice portal has not previously stored any attribute value preferences of the user for the selected vertical domain of interest;

the funneling operation is additionally performed if the voice portal has previously stored any attribute value preferences of the user for the selected vertical domain of interest, but the user has opted to override the stored attribute value preferences.

35.   (previously presented) The method of claim 33, where:

the funneling operation is only performed if the voice portal has not previously stored any attribute value preferences of the user for the selected vertical domain of interest;

the operations further comprise, if the voice portal has previously stored any attribute value preferences of the user for the selected vertical domain of interest, instead of the funneling operation, performing an operation of conducting an Internet search for prescribed types of information pertaining to the stored attribute value preferences.